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Triage of Patients in the Child and Adolescent Psychiatry Outpatient Clinic

Bir Çocuk ve Ergen Psikiyatrisi Polikliniginde Triyaj Uygulaması

Sahbal ARAS, Fatma VAROL TAŞ, Burak BAYKARA

Department of Child and Adolescent Psychiatry, Dokuz Eylül University, Faculty of Medicine, İzmir, Turkey

ABSTRACT

Introduction: The aim of this study was to evaluate and describe the three-stage triage method used in a child and adolescent psychiatry outpatient clinic.

Method: The study investigated the new allocation process of 1482 children and adolescents who were assessed using this triage system for the duration of one year, in the year 2005. Data of 1423 children and adolescents who presented in 2003 regarding the waiting time for the first appointment and the rate of nonattendance at the first appointment were used for the comparison. In triage system, new patients presenting to the outpatient clinic in the morning four days a week were assessed by a three-stage procedure: An initial Strengths and Difficulties Questionnaire screening and a structured interview administered by an intern was then followed by a clinical interview.

Results: Of the 1482 children and adolescents who presented to the outpatient clinic during the study period, 1291 were given further appointments. Among patients who presented in 2005, the 207 non-attendant patients were significantly more likely to have longer waiting times than the 1084 attendant patients. When compared to year 2003, it was found that there was a significant decrease in the mean waiting time for the first appointment and the rate of nonattendance at the first appointment among patients who presented in 2005.

Conclusion: The triage procedure used in this study may constitute a model for developing countries with limited health care resources. (Archives of Neuropsychiatry 2014; 51: 248-252)

Key words: Triage assessment, outpatient, child and adolescent psychiatry

Conflict of Interest: The authors reported no conflict of interest related to this article.

ÖZET

Giriş: Bu çalışmanın amacı bir çocuk ve ergen psikiyatrisi polikliniğinde kullanılan üç asamalı triyaj yönteminin değerlendirilmesi ve tanıtılmasıdır.

Yöntem: Bu çalışmada, 2005'te bir yıl boyunca yeni triyaj yöntemiyle değerlendirilen 1482 çocuk ve ergenin "rutin", "öncelikli" ve "acil" olmak üzere öncelik gruplarına ayrılma süreçleri arastırılmıştır. Karşılaştırmak amacıyla, 2003 yılında başvuran 1423 çocuk ve ergenin ilk randevu için bekleme süresi ve randevu devamsızlığı verileri kullanılmıştır. Triyaj uygulamasında, haftada dört gün sabah kliniğe başvuran yeni hastalar üç aşamalı işlem ile değerlendirilmiştir: Güçler ve Güçlükler Anketi verilmesinden sonra bir intörn yapılandırılmış görüşme uygulamış ve son aşamada klinik görüşme yapılmıştır.

Bulgular: Çalışma döneminde, polikliniğe başvuran 1482 çocuk ve ergenin 1291'i için randevu önerilmiştir. 2005 yılı başvurularından, verilen randevusuna gelmeyen 207 hastanın randevu bekleme süreleri randevusuna gelen 1084 hastanınkinden anlamlı olarak daha uzundur. 2003 yılı ile karşılaştırıldığında, 2005 yılında başvuran hastaların ilk randevu için ortalama bekleme sürelerinin ve randevuya gelmeme oranının anlamlı düşük olduğu saptanmıştır.

Sonuç: Bu çalışmada kullanılan triyaj işlemi sağlık olanakları sınırlı gelişmekte olan ülkeler için bir model olabilir. *(Nöropsikiyatri Arşivi 2014; 51: 248-252)*

Anahtar kelimeler: Triyaj değerlendirmesi, ayaktan tedavi, çocuk ve ergen psikiyatrisi Çıkar Çatışması: Yazarlar bu makale ile ilgili olarak herhangi bir çıkar çatışması bildirmemişlerdir.

Introduction

The World Health Organization predicts that childhood neuropsychiatric diseases will be one of the causes of mortality and disability among the five most common diseases of adolescence in 2020 (1). Untreated psychiatric diseases of children and adolescents become more severe and treatment resistant in the subsequent periods of life and may lead to important problems, including academic failure, early pregnancies, and early marriages. It has been stated that severe individual, social, and economic costs of psychiatric diseases of children and adolescents can be reduced by early treatment and prophylactic interventions. However, for each treatment to be successful, it should be primarily initiated and secondarily maintained (2). Therefore, approaches that are directed to early recognition, evaluation, and treatment of psychiatric diseases in children are important. The number of patients waiting for their first appointment is gradually increasing because of a high number of patients, long follow-up times, and insufficient number of physicians. Long waiting times decrease the rate of attendance at the first appointment and lead to waste of time for the team, delayed solution of problems, and inability to evaluate cases of top priority in time (3,4,5). It has been stated that psychopathology becomes more severe during long waiting periods in many patients (6). Different methods are being applied to cope with these problems (4). Evaluation of the methods who give feedback to the questionnaires sent to the patients in the waiting list has been recommended as a useful method in predicting continuance

of attendance at the planned appointments (7). It has been reported that asking families if they would attend their appointment as their appointment time approaches is effective in reducing non-attendance. However, this approach does not provide sufficient information for a decision related with placing the individual at the appropriate priority level in the patient list (4). It was considered that referral letters would be useful in determining urgent cases and intervening in these cases in time; however, it was found that they were insufficient because of the lack of appropriate information (8). In adjusting waiting lists, methods, including utilizing multidisciplinary teams, shortening the examination times, increasing productibility by intervening with non-attendance, and appropriately positioning referrals, are applied (6).

A method other than the ones mentioned above is triage (4). Triage that originates from military medicine means categorizing the injured individuals into three groups in the basis of a pre-examination: the ones who require urgent intervention, ones who can wait, and ones who will not benefit from the treatment. In the triage system, patients are directed to appropriate treatments according to their clinical requirements, the possibility of benefitting from the treatment, and urgency level (4). In child and adolescent psychiatric services, triage can be used in determining cases of top priority requiring urgent intervention or in psychiatric assessment in urgent situations (for example, abuse, suicide, violent behaviors, and severe psychopathology) or under extraordinary conditions (disasters) (4,9) as well as in adjusting routine appointments (3,8). Triage evaluation is useful in preventing inappropriate appointment requests and prevents patients requiring urgent intervention from waiting for long periods. With triage, some cases are closed at the first appointment or the first interventions are realized. It has been reported that triage improves the rates of non-attendance and patient and clinician satisfaction (4). When triage is used while providing limited resources in healthcare services, the ones who require resources with the highest priority and who will benefit with the highest rate are specified (10).

In Turkey, approximately 200 child and adolescent psychiatrists, including residents, provided service to approximately 25 million children below the age of 18 years, which constituted 36% of the population (11) at the time when this study was conducted. It is clear that the number of child and adolescent psychiatrists is insufficient in our country considering the fact that the prevalence of psychiatric disorders has been found to be approximately 14% in epidemiological studies. In our country, ignorance and even neglect of psychological requirements and problems of children in the family is common because of educational and socioeconomical factors. Because one third of children do not attend subsequent appointments after the first appointment with the child and adolescent psychiatrist (13), the first appointment may be the only opportunity for some children to get psychological assistance. A detailed evaluation and referral to appropriate service (if possible) by the child and adolescent psychiatrist at the first appointment may be a useful approach for these children to get appropriate psychological assistance. Although child and adolescent psychiatry clinics should be considered as the final referral centers in the treatment of children with psychological problems, children are frequently brought to these clinics directly by their parents without the referral of other physicians. Because of inadequacies in the follow-up of child development, some children with developmental problems (pervasive developmental disorders, hearing deficit, mental retardation, etc.) may be forced to wait for child

and adolescent psychiatry clinic appointments without being examined by a physician in detail. Children with severe psychological and developmental disorders as well as children with simple problems that can be solved at the primary care level present to these clinics. Because of these factors, it is important to rapidly make the first assessment in order to determine the cases of top priority and handle problems that can be easily solved or that require early intervention.

In this study, the three-stage triage system that was applied in the admission of patients in a child and adolescent psychiatry clinic was addressed along with the conditions requiring this approach. It was aimed to examine the characteristics of the patients whose initial assessment was made using triage for a period of one year and to compare the three-stage triage method with the previous method used before in terms of appointment non-attendance and appointment waiting times.

Methods

In this study, the three-stage triage method was applied in the İzmir Dokuz Eylül University Medical Faculty, Child and Adolescent Psychiatry Outpatient Clinic. This application was realized considering the resources and main characteristics of our clinic together with the inadequacies in the healthcare system in our country. Since most patients were brought with the decision of their parents, the triage assessment was considerably and extensively designed. The objective of the triage system applied included the following:

- Rapidly performing the first assessment,
- Determining the appropriateness of assessment by a child and adolescent psychiatrist, and the urgency of the case and treatability of the symptoms/problems,
- Instantly addressing the problems that may respond to simple interventions or that would worsen during delayed waiting periods,
- Planning the time-consuming examinations to facilitate the evaluation at the first appointment,
- Improving the rates of attendance at the first appointment (by way of evaluating the motivation for attendance and decreasing the waiting time or waiting list), and
 - Improving service productivity and patient satisfaction.

The population of İzmir, which is the third largest province of Turkey and the largest province in the Egean region, was 2 732 669 at the time when this study was conducted (11).

Child and adolescent psychiatry services were provided by two universities and one public hospital. Patients from the other parts of the Egean region were being referred to these clinics because of the insufficiency of the number of child and adolescent psychiatrists. Assessment and treatment services have been provided to children below the age of 18 years in the Dokuz Eylül University, Medical Faculty, Child and Adolescent Psychiatry Clinic since its establishment in 1986. In 2003 and 2005, outpatient services were provided by two child and adolescent psychiatrists and 5–7 residents. Urgent cases are instantly addressed in the Dokuz Eylül University, Medical Faculty, Child and Adolescent Psychiatry Outpatient Clinic. Different approaches have been tried and applied in arranging routine appointment requests to adapt with the changing conditions in time. Before September 2001, appointments were given by secretaries such that the ones who called by phone or presented to the clinic in advance (excluding

urgent cases) were being provided service in advance. In September 2001, patient appointments started to be arranged with a new method. In this new method, a child development specialist filled in patient forms by interviewing patients (parents/caregivers) face to face or by phone at certain hours of the day. At regular weekly team meetings (including child and adolescent psychiatrists), these patient forms that included demographic data, complaints, time of complaints, and previous diagnoses were evaluated, and the patients whose priority levels were specified were referred to one of the two groups, including the "priority" and "routine" groups. Immediately after the team meetings, appointments were given to the patients in the "priority" group. The patients in the "routine" group waited for their appointment without any intervention. When the patients in the routine waiting list, whose turns came, were called by phone, they were asked if they would attend their appointments. However, the rates of non-attendance were high and the waiting times were long. In addition, problems occurred during the assessment of priority because of inadequate evaluation.

The benefits of this time-consuming and inconvenient approach in which patients' forms were used in the evaluation of priority were limited. Conclusively, the application of the three stage-triage system, which is still being used, to patients was started in July 2004.

The three stage triage application

Patients in emergency status and patients who have been seen by the consultation team during hospitalization are primarily cared without triage assessment. In the triage application, the first 10 patients referring in the morning on Monday, Tuesday, Thursday, and Friday are evaluated according to the order of referral. The three stages of triage assessment are shown in Figure 1. Primarily, the parents/adolescents fill the Strengths and Difficulties Questionnaire (SDQ). Afterwards, the demographic properties, presentation complaints, developmental history, and familial history of the patient are recorded in a form by interns who interview the parents for approximately 20 min. Subsequently, a child and adolescent psychiatrist reviews the responses provided to SDQ and to a structured form and during the interview with the child/adolescent and parents.

The complaints, history, personal history, and risk factors are rapidly evaluated (in 30 min) using the forms prepared for three different age groups ("preschool," "school," and "adolescence"). The primary requirements of patients are specified according to

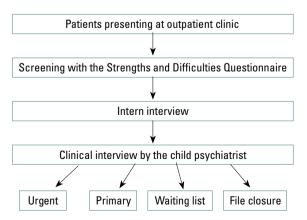


Figure 1. Three stage triage evaluation in the Child and Adolescent Psychiatry outpatient clinic

the pre-diagnoses by evaluating the severity of symptoms, functionality level, and risks. In dividing the patients into triage groups, algorithms designed to help physicians in their decision of triage are utilized. The main pre-diagnoses placed in the "urgent" group include acute mania or psychosis, carrying a risk of the hazard for himself/herself or others, organic mental disorders, refusal to attend school, eating disorders, psychosocial crises, and child abuse and neglect. These patients who require urgent interventions are referred to the related units. In the waiting list, priority is given to patients who will benefit from early diagnosis and intensive intervention. The main pre-diagnoses in this group include psychosis, depressive disorders, bipolar disorder, and pervasive developmental disorders. The necessary examinations and consultations (hearing test or developmental test, etc.) are planned for these patients. Solutions are found for simple problems (giving advices to parents to handle these problems or referring the child to kindergarten, etc.) and main questions of parents are answered. In this way, some cases can be closed. The patients are added to the waiting list after their pre-diagnoses are specified and primary interventions and examinations are planned.

Sample

In this study, the characteristics of 1482 patients whose first assessment was realized in 2005 using the triage method in the child and adolescent psychiatry outpatient clinic were evaluated. The process of referral of children and adolescents to treatment options and the variables affecting the rates of non-attendance for outpatient clinic appointments were investigated. The data of new patients who were evaluated throughout 2005 with the three-stage triage system were compared with the data of 1423 new patients in 2003.

Statistical Analysis

The data were analyzed using SPSS 11.0 program. Chi-square test was used in the comparison of gender rates of patients who attended and who did not attend their appointments in 2005 and in comparison of the non-attendance rates between 2003 and 2005. Continuous variables, including age and waiting period, were compared using t-test. A p value of <.05 was considered statistically significant.

Results

The numbers of new patients who presented to the child and adolescent psychiatry outpatient clinic each month in 2003 and 2005 are shown in Figure 2. December is the month during which the highest number of patients presented for both years.

In this study, 907 (61.2%) of the 1482 new patients evaluated by triage in 2005 were male and 575 (38.8%) were female. The ages of the patients ranged between 1 and 18 years, and the mean age was 9.2±4.5 years . The mean age of the boys was found to be significantly lower (8.6±4.3 years) compared with that of the girls (10.2±4.6 years) (p<.001). In 2005, because of the initial evaluation of 1482 patients, it was found that 347 patients (23.4%) had multiple pre-diagnoses. The pre-diagnoses of patients were grouped as follows:

- Developmental problems (pervasive developmental disorders, mental retardation, communication disorders, learning disorders, tic disorders, enuresis, etc.): 530 (35.8%)
- Behavioral problems (disruptive behavior disorders, adaptation/behavioral problems, relation problems, etc.): 507 (34.2%)

- Developmental period problems (difficulties related with developmental period, sleep/eating problems, masturbation, etc.): 262 (17.7%).
- Other diagnoses (psychosis, sexual identity disorder, marriage problems in the family, life event problems, etc.): 149 (10.1%).

Furthermore, the 1482 patients evaluated by triage were referred as follows according to the pre-diagnoses (Figure 3):

- Urgent intervention (emergency group): 33 patients (2.2%)
- Primary evaluation (priority in the waiting list): 161 patients (10.9%)
- Waiting list (routine status in the waiting list): 1192 patients (80.4%)
- File closure (closing evaluation): the files of 64 (6.5%) of 96 patients were closed considering no further follow-up was required and 32 patients (2.2%) were referred to a more appropriate unit.

In the process of triage in 2005, 95 patients who were included in the routine or primary waiting list refused the appointment given when called by phone or could not be reached. Furthermore, 33 of a total of 1291 patients who were given appointment are patients whose appointments were planned after urgent treatment; 1084 (84.0) of the 1291 patients attended the planned appoint-

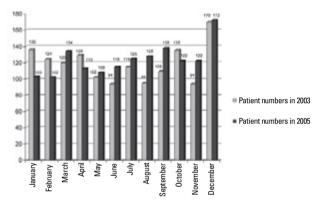


Figure 2. The numbers of the patients who presented in 2003 and 2005 for each month

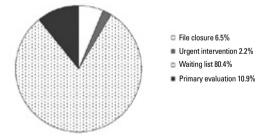


Figure 3. Types of referral of 1482 patients who presented in 2005

ment, whereas 207 (16.0) did not. The mean and median waiting times of the urgent, primary, and routine patients and the rates of non-attendance are shown in Table 1. The rate of non-attendance of 193 primary/urgent patients who were given an appointment in approximately 3 weeks was not found to be significantly different from the routine patients (14.5% and 16.3%, respectively; p=.603). There were only six patients who waited >30 weeks to make an appointment. The patients who attended their planned appointments were compared with the ones who did not in terms of age, gender, and waiting times. The mean waiting time of patients who did not attend their appointments (61±60 days) was significantly longer compared with that of patients who attended their appointments (45±52 days) (p<.001). The mean age of patients who attended their appointments (9.4±4.3 years) was not different from the mean age of patients who did not attend their appointments (9.4±4.6 years) (p=.966). Furthermore, the gender rate of the group who attended their appointments (59.6% male, 40.4% female) was not significantly different from the gender rate of the group who did not attend their appointments (59.1% male, 40.9% female) (p=.339).

The data of the new patients who presented in 2005 were compared with the data of the new patients who presented in 2003 in order to evaluate the difference between the three-stage triage system and the previous patient referral method. Appointment was planned for 1291 (87%) of the 1482 patients who presented in 2005 and for 1176 (83%) of the 1423 patients who presented in 2003. The median waiting time was 26 days in 2005 and 105 days in 2003. The mean waiting time for patients who were seen in 2005 was significantly shorter compared with the mean waiting time for patients who were seen in 2003 (48 \pm 54 days vs. 109 \pm 69 days; p<.001). It was found that the rate of non-attendance in 2005 was significantly lower compared with that in 2003 (16.0% vs. 30.7%; p<.001) (Table 1).

Discussion

In this study, the numbers of patients who were given an appointment was found to be similar when the three-stage triage method that was first applied in 2005 was compared with the previous evaluation method. Extension of the waiting list was prevented by handling the problems that could be solved by simple interventions. The rates of non-attendance for appointments in child and adolescent psychiatry have been reported to range between 14% and 35% (7). In a study conducted by Lai, it was found that triage was an efficient method in shortening the waiting times for children who had more urgent requirements, and the rate of non-attendance

Table 1. The waiting times for appointment and rates of non-attendance
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		2005		2003	
	Urgent appointments	Primary appointments (n=160)	Routine appointments (n=1098)	All appointments (n=1291)	All appointments (n=1176)
Non-attendence (%) Waiting time	18.2	13.8	16.3	16.0	30.7
Median (days)	4	7	32	26	105
Mean±SD (days)	6±6	13±21	54±55	48±54	109±69
SD: standard deviation					

was found to be 11.1% in 337 patients who were evaluated by triage (8). In this study, the rate of non-attendance was found to be 16%. The mean ages and gender distributions of the patients who did and did not attend their appointments were found to be similar. However, the waiting time of the patients who did not attend their appointments was significantly longer. A significant reduction occurred in the rate of non-attendance for patients who presented in 2005 with application of the three-stage triage method.

It has been reported that prolonged waiting time for the first appointment in child and adolescent psychiatry was among the main causes of non-attendance (7). In one study, it was reported that the rate of non-attendance increased by 1.4% each day after appointment (2). It is considered that a waiting period of <1 month is very short for transient problems to disappear; however, it has been found that families do not wish to or can not wait for >30 weeks (7). It has been reported that a mean waiting period of 7–8 weeks is acceptable for families (4). In this study, it was found that the mean waiting time in 2005 was approximately 7 weeks, and very few patients waited for >30 weeks. The rate of non-attendance of the "urgent" and "primary" patients who were given an appointment was not found to be different from the "routine" patients. A significant reduction occurred in the waiting time for the first appointment for patients who presented in 2005 with the application of the three-stage triage method.

In our country, triage is mostly applied in pediatric emergency medicine (14). Although there are foreign studies (3,4,8,9) related with the use of triage in child and adolescent psychiatry, this is the first comprehensive study conducted in our country in this area. The fact that evaluation of priority was not performed using standard tools and lack of data of a recent study by which the study results could be compared is among the main limitations of our study.

Since there is an increasing demand for child and adolescent psychiatry in our country, the triage system used in this study is an approach that would lead to prolonged waiting times for patients who require psychiatric assistance but who are not defined as "urgent" or "primary" patients. Thus, delay in reaching appropriate service gradually increased for patients who were defined as "routine" patients in subsequent years during which the triage application was continued.

Interventions directed to rapidly finalizing patients evaluated to be "routine" in outpatient clinics using shorter term treatment approaches are continuing. Priority evaluation in the triage method in emergency department and outpatient clinic admissions has been tried to be objectivized since October 2008. With this objective, a single form was created for the 5–18 year age group by renewing the "school age" and "adolescent" forms used in the triage evaluation. In addition, an adaptation study for the Child Psychiatry Priority Criteria (15), which is a standard tool used to determine priority, was conducted by obtaining permission from those concerned, and this tool began to be used in triage. Currently, eight patients who have made an appointment by the online appointment system are evaluated four days a week by the triage method in the outpatient clinic.

In a recent study, it was found that the parents of >2/3 of patients who presented to the outpatient clinic in which this study was performed had an education level of high school or higher and had health insurance for the family (13). The answer of the question if the triage method used in a university outpatient clinic where a patient group with these socioeconomical characteristics attends can be applied in patients with a low socsoeconomical level and in outpatient clinics the operation of which are shaped by economic and administrative pressures of the healthcare system depends on what is expected from triage. Triage has the function of arranging the waiting list rather than melting it and if improvement in the quality of service is expected, triage can enable this.

Primarily, the quality of service in the clinics that provide career education may affect the sufficiency of the specialists raised. Therefore, application of the triage method in education units is important.

In conclusion, the three-stage triage system that was used in this study was designed according to the requirements of patients in our country and the resources of the clinic where the study was conducted. This system can create a model for developing countries that try to meet the increasing demand for child and adolescent psychiatry service with limited resources. By using triage, patients can be classified in terms of the appropriateness of the request and priority level. Problems which can be easily solved can be handled, and the necessary examinations and consultations can be planned. The triage system used in this study can be useful in referring patients who present with their own decisions without being specifically referred. The results of this study demonstrated that the three stage triage method was an efficient method in decreasing the waiting time for the first evaluation and providing an opportunity for early interventions for problems that may worsen during the waiting period. Review and adjustment of the triage process and investigating the effects of triage on the rates of attendance for the first appointment, service productivity, and patient satisfaction may help to improve this method.

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